

HGS Catalog

Type	Summary	Hygroscopicity	Moisture absorbent	Thickness (adhesive included)
HD Type	General-purpose type Low expansion desiccant.	Fast-acting	CaO	135~300μm
SF Type	High moisture absorption SrO-containing low expansion type Although it is thin, it maintains the initial moisture absorption rate and also secures capacity.	Fast-acting	CaO / SrO	100~250μm
SG Type	High moisture absorption SrO high content model The most hygroscopic desiccant that maintains high hygroscopicity and is thinner than the SF type.	Fast-acting	CaO / SrO (SrO high content type)	100~170μm
LD Type	Slow-acting CaO type The LD type reacts gently to moisture, eliminating the need of a complete drying device (Box) that is required for fast-acting types. It is used in many applications because it can be handled in the air. For example, it is used in general-purpose components for medical devices and also we have received many inquiries such as for sensors for autonomous driving. Please do not hesitate to contact us if you are considering using our products.	Slow-acting	CaO	285~460μm

Moisture absorption materials

High activity CaO (Fast)

By increasing surface activity,
even in the low moisture
concentration range
Moisture absorbent with high
moisture absorption
performance

Low activity CaO (Slow)

By suppressing surface
activity, moisture reactivity is
lowered and
Moisture absorbent with low
moisture absorption rate

High moisture absorption SrO (Fast)

Due to its small bulk,
it can contain a high amount
of highly hygroscopic moisture
absorbent.

☆Reactivity with H₂O



※ By using chemical adsorbent instead of physical adsorbent, once moisture is absorbed, it is not released again until high temperature range.

Product List of HGS (Humidity Getter Sheet)

Thickness Desiccant layer (μm)	HD-Type		SF-Type		SG-Type		LD-Type		Total Thickness	
	Absorbent : CaO		Absorbent : CaO+SrO		Absorbent : CaO+SrO SrO high content type		Absorbent : CaO		Adhesive layer	
	Product Name	Moisture Absorption	Product Name	Moisture Absorption	Product Name	Moisture Absorption	Product Name	Moisture Absorption	30 μm	15 μm
420							LD-02	18.4※.1	450	435
275	HD-04	5.2					LD-04	14.7※.1	305	290
235	HD-05	4.8							265	250
220			SF220	3.9					250	235
200	HD-06	4.1							230	215
150	HD-07	3.8							180	165
140					SG140	4.6			170	155
130			SF130	3.4					160	145
120	HD-08	3.2							150	135
110					SG110	3.8			140	125
85			SF085	2.7	SG085	3.0			---	100

■ The above moisture absorption amount is a measured value at 20°C-65%RH-15min and is not a guaranteed value.

※.1 The above moisture absorption amount is a measured value at 60°C-70%RH-4hours and is not a guaranteed value.

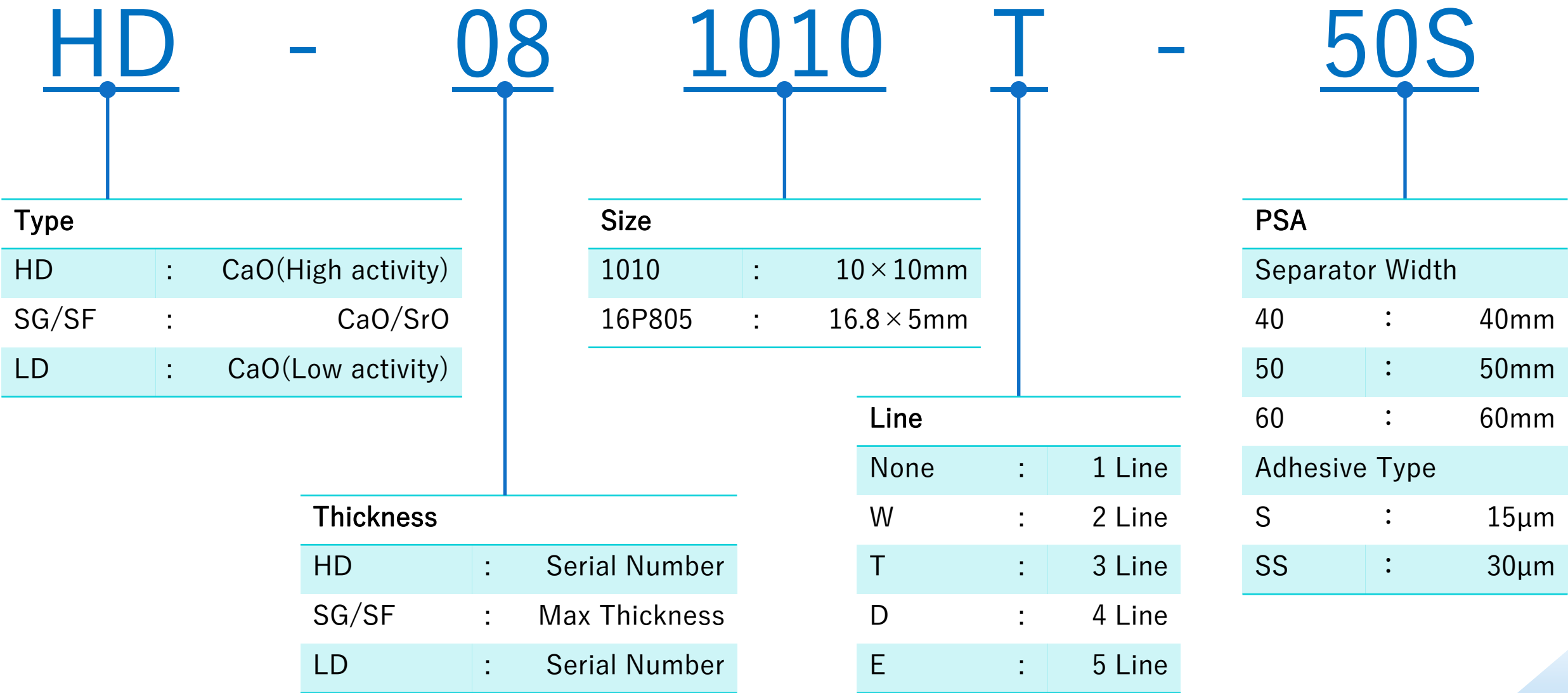
Moisture Absorption unit : mg/cm²

PSA

Type		Strength adhesive Type	Thin Type
Thickness (μ m)	Adhesive layer	30	15
	Separator film	50	
Adhesive force (N/25mm)	SUS	5.76	1.78
	Glass	6.81	3.03

※ The above values are only the test results and are not for the guarantee purpose.

Product Name



Composition

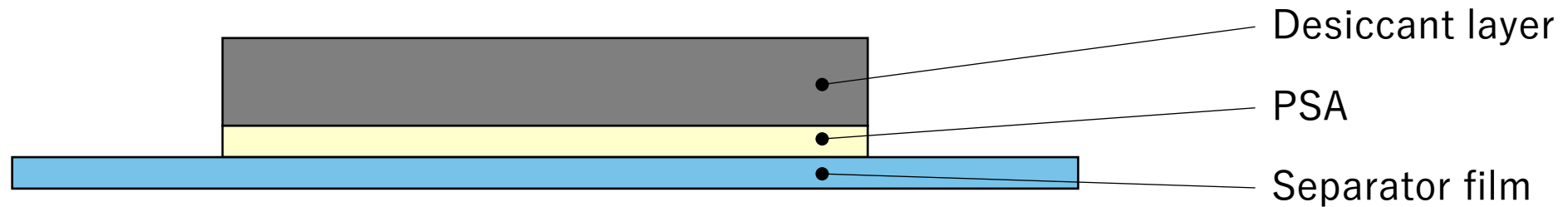


Fig. Cross section of HGS

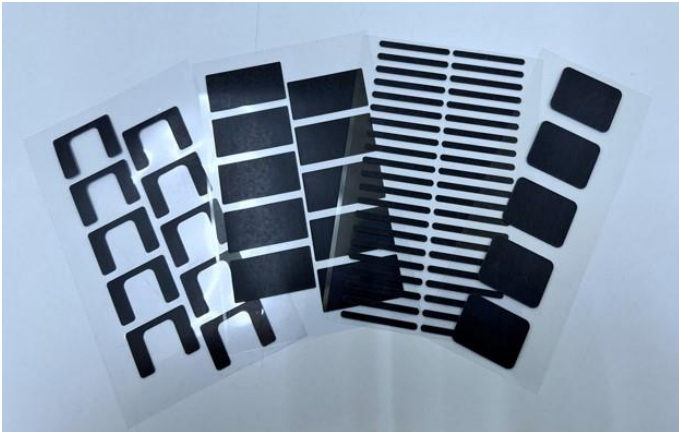
Item	Composition
Desiccant layer	Moisture absorption materials : CaO (High activity, Low activity) 、 SrO Binder : PTFE (Teflon)
PSA	Pressure-sensitive adhesive double coated tape Acrylate resin / PET film / Acrylate resin Thickness: 30 μ m、 15 μ m
Separator film	PET film (Thickness: 50 μ m)

Shipping form



Reel

- 【1】 Available for the automatic labeler machine
- 【2】 Packed many products in one reel



Single-wafer products

- 【1】 It is possible to ship in quantities that correspond to manual work.
- 【2】 You can check it as a small sample.

Packing (Reel)



Packing

【1】 Each roll is supplied in the type rolled up in the special reel and double-wrapped up with aluminum wrapping individually.

【2】 Composition of aluminum wrapping

(outside) PET // ON / LDPE / AL / LDPE / LLDPE (inside)
= 12 // 15 / 15 / 15 / 15 / 50 (Unit : μm)

High performance desiccant 【SF,SG type】

SF、SG Type

In recent years, displays have been moving in the direction of becoming thinner.

Therefore, the space for pasting the desiccant is also thinner.

Required quality ① Thinner desiccant

② Ensuring moisture absorption performance

We have developed a desiccant that meets the above requirements

by making a hybrid combination of highly moisture-absorbing SrO and CaO. Product content.



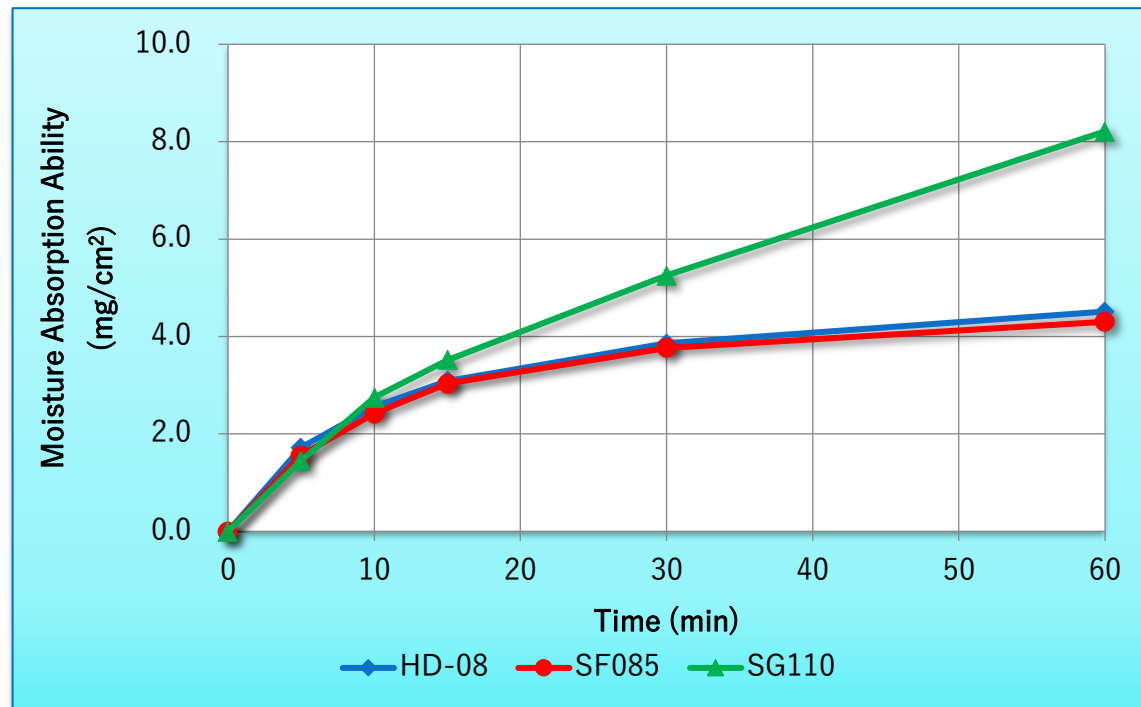
●Product content

Product	Moisture absorption materials	Feature
SF-Type	SrO + CaO	<u>Thin and Low expansion type</u> 、SrO content type
SG-Type	SrO + CaO	Thin and Low expansion type、 <u>SrO high content type</u>

Moisture Absorption Ability

■ Test Condition

Sample	HD-08 (t=0.115mm) 、SF085 (t=0.085mm) 、SG110 (t=0.110mm) ※Thickness is only a moisture absorption layer.(t=maximum thickness)
Test environment	20°C-65%RH
Size	HD-08 : 22×5mm、SF085 : 16.8×5mm、SG110 : 23×2mm



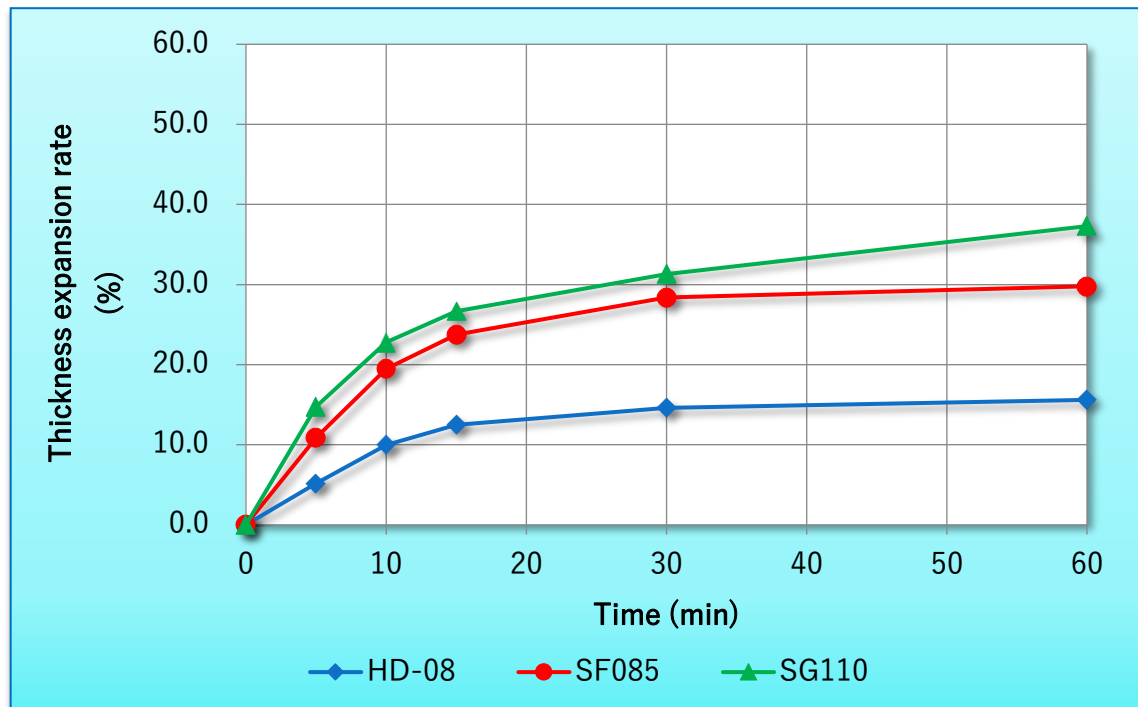
SG110 > SF085 ≐ HD-08

Fig. Moisture absorption ability

Expansion Characteristic

■ Test Condition

Sample	HD-08 (t=0.115mm) 、SF085 (t=0.085mm) 、SG110 (t=0.110mm) ※Thickness is only a moisture absorption layer.(t=maximum thickness)
Test environment	20°C-65%RH
Size	HD-08 : 22×5mm、SF085 : 16.8×5mm、SG110 : 23×2mm



SG110 > SF085 > HD-08

Fig. Expansion characteristic

Slow-acting desiccant 【LD type】

※ Note: The values in this information materials are only test results and are not for the guarantee purpose.

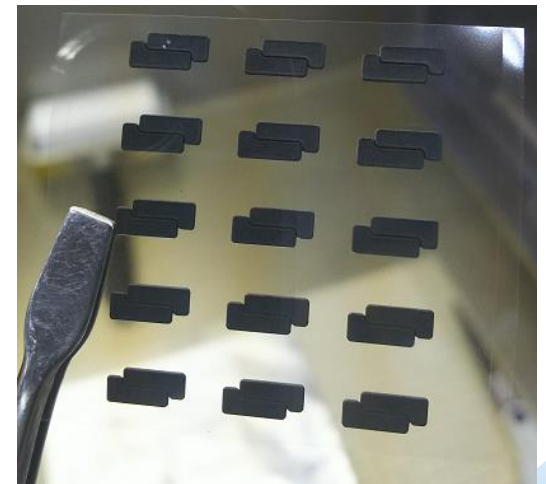
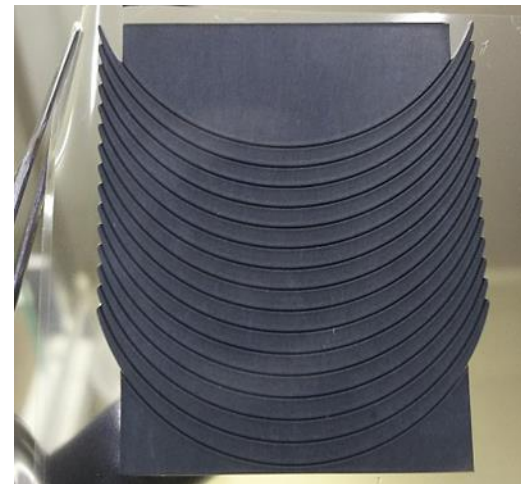
LD type

For its structure of single-side adhesive layer, HGS is preferred for:

- ① Easier handling than liquid desiccant.
- ② Take up less space than bag-shaped desiccant.

On the other side, the moisture absorption speed is too fast to treat in the atmosphere. The unexpected absorption of moisture, it has to be treated in the dry box. It's one of the difficulty to apply it to non-OLED device.

To meet the increasing demand of slow-acting moisture desiccant from various customer, we have developed the LD type desiccant.



Moisture Absorption Ability

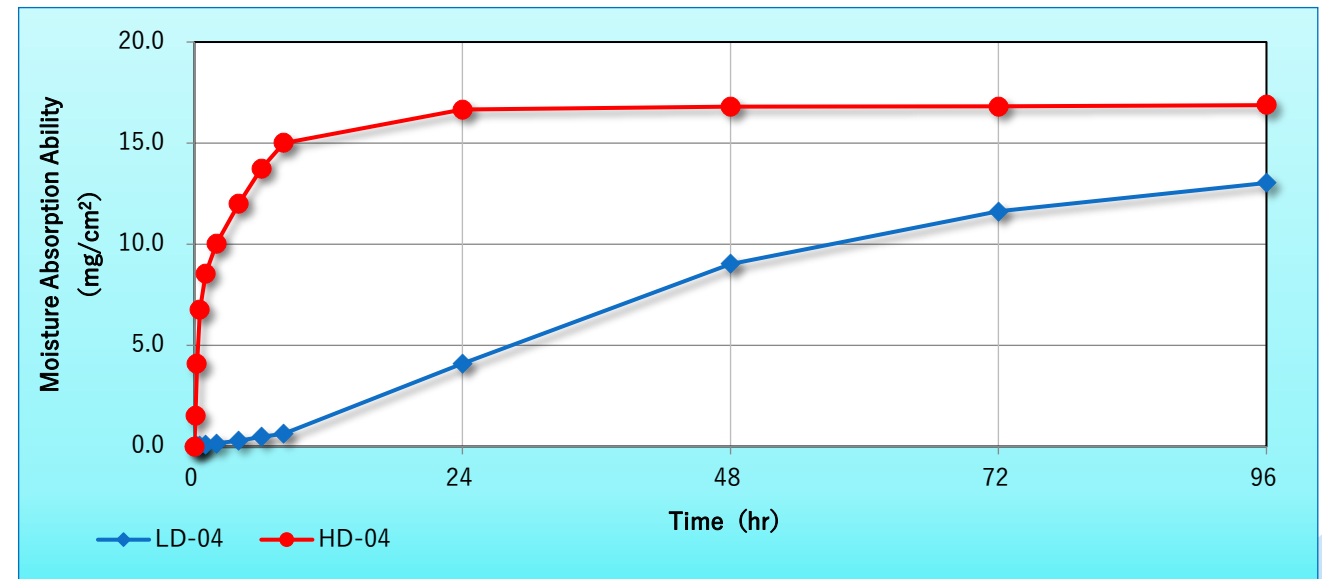
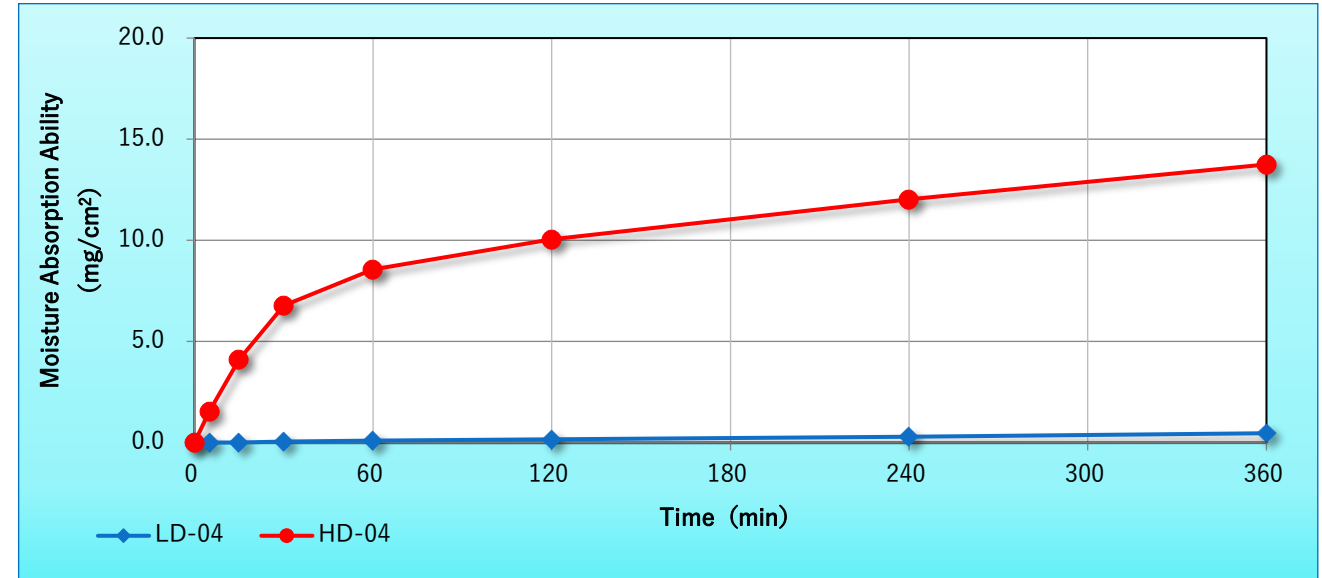
○ Test Condition

Sample	LD-04 (t=0.350mm) HD-04 (t=0.350mm) ※Thickness is only a moisture absorption layer. (t=maximum thickness)
Test environment	20°C-65%RH
Size	30 × 30 mm

LD-04 Slow-acting Type

HD-04 Fast-acting Type

※ The data on the right side was tested in the atmosphere and is including the reaction with CO₂.



Paste Desiccant 【HG-PASTE】

Paste Desiccant : HGP (Humidity Getter Paste)



Recently, the demand for Paste-type desiccant has been increased in order to miniaturization of OLED.

Focused on EL damages by oil from binder, we introduce PASTE-type desiccant "HGP" developed.

■ Characteristic

- HGP is suitable to smaller OLED.
- Trial Product Type has not released oil.
(*it is necessary to UV irradiation.)
- Because HGP is not use harmful substances, It is safely and environmentally product.

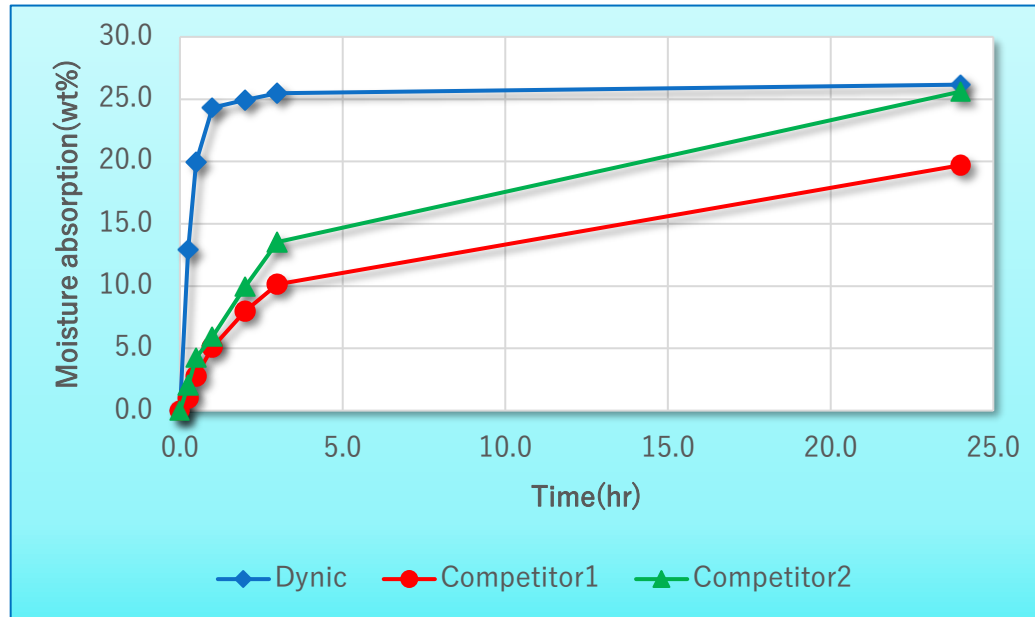
HGP Catalog

Type	Summary	Hygroscopicity	Moisture absorbent	Initial Viscosity
PD-N09 (Trial Product)	■Curing type This desiccant can be firmly fixed etched glass or sandblasted glass by curing after application to the OLED back glass. This desiccant has improved storage stability from the initial product and has reduced the increase in storage viscosity.	Fast-acting	CaO / SrO	$\geq 60 \text{ Pa} \cdot \text{s}$

Moisture Absorption & Oil bleeding Test

Moisture Absorption Test Condition

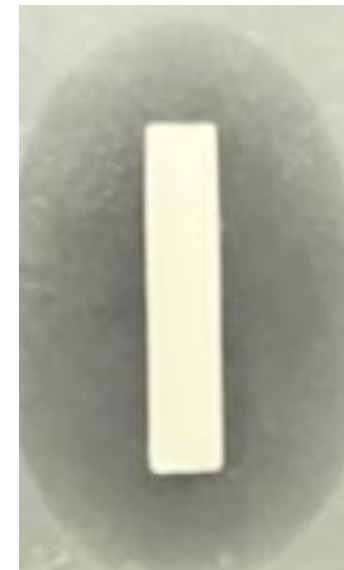
Sample	Dynic Sample Competitor1 Sample Competitor2 Sample
Test environment	20°C-65%RH
Size	10mm × 20mm



Dynic > Competitor2 > Competitor1

Oil bleeding Test Condition

Sample	①Oil bleeding sample ②UV Paste getter Adherend : Sandblasted glass
Test environment	20°C-65%RH
Test time	After 1,000 hr



Oil bleeding sample

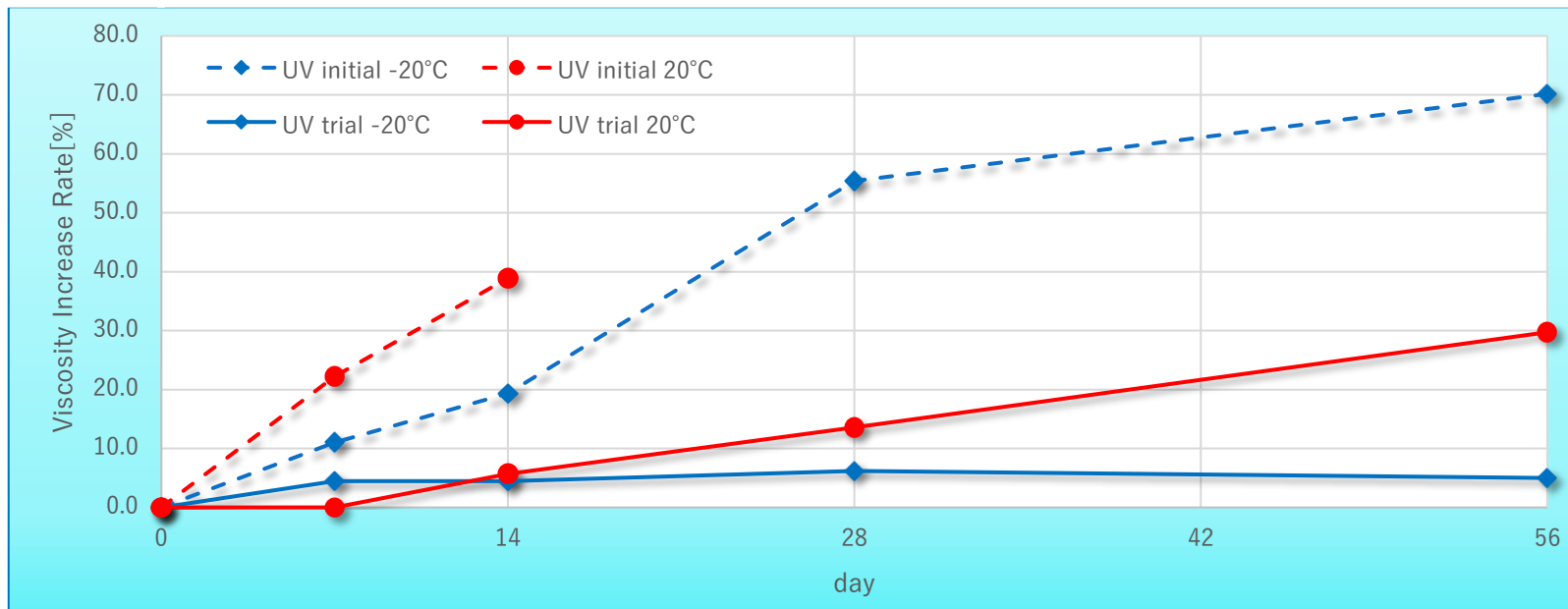


UV Paste getter

Storage stability

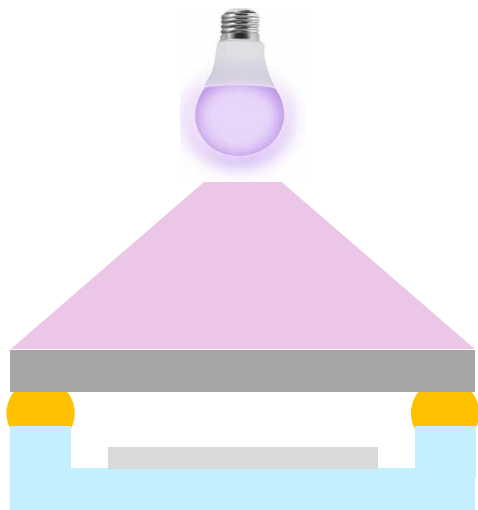
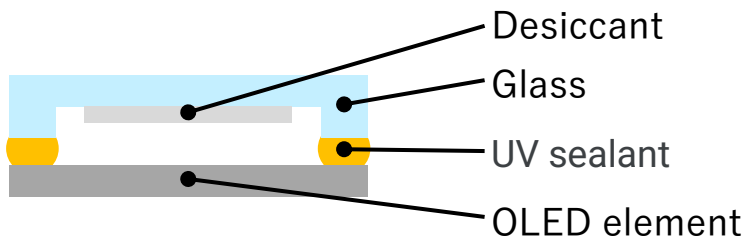
■ Test Condition

Sample	①UV-curable initial product(-20°C Storage) ②UV-curable initial product(20°C Storage) ③UV-curable trial product(-20°C Storage) ④UV-curable trial product(20°C Storage)
Test Temperature	20°C
Sheer rate	10sec ⁻¹

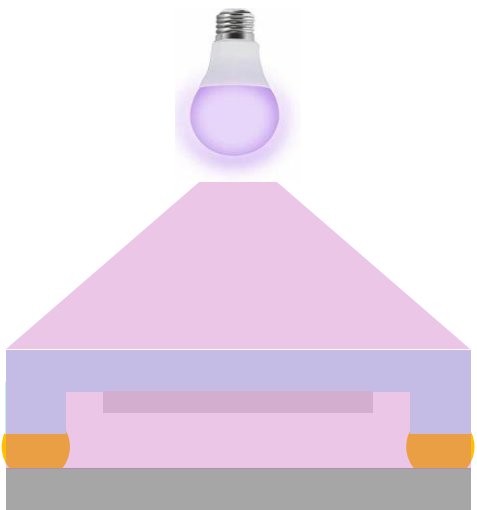


UV trial -20°C > UV trial 20°C > UV initial -20°C > UV initial 20°C

UV curable



NG



OK

UV rays do not reach the desiccant

■ UV irradiation : UV-LED365nm / 100mW/cm²

Accumulated light intensity[J/cm ²]	0	4	6	7.5	8	10
Photo						
合否	×	△	○	○	○	○